PACIFIC NORTHWEST AQUATIC MONITORING PARTNERSHIP

STATEMENT OF WORK FOR FY2005

SUBMITTED BY:
PNAMP Steering Committee

PERFORMANCE PERIOD:
October 1, 2004 – September 30, 2005

DATE SUBMITTED
October 5, 2004

BACKGROUND

Federal, state, tribal, local, and private aquatic monitoring programs in the Pacific Northwest have evolved independently in response to different organizational mandates, jurisdictional needs, issues and questions. Planning and coordination of federal, state and tribal monitoring activities have evolved slowly but steadily over the past ten years. In 2003, leaders of aquatic monitoring programs formed an alliance as the *ad hoc* Pacific Northwest Aquatic Monitoring Partnership (**PNAMP**) group. The geographic area of this coordination includes the Pacific Northwest region from Northern California to Canada where the participating entities are implementing monitoring efforts. The basis of this group is that monitoring will be improved if: all programs use consistent monitoring approaches and protocols; follow a scientific foundation; support monitoring policy and management objectives; and collect and present information in a manner that can be shared.

DESCRIPTION OF PROPOSAL

This proposal includes a description of tasks and associated costs for the Steering Committee (Section 1), Coordination function (Section 2) and specific technical workgroups (Section 3) activities for federal fiscal year 2005.

Estimated budgets are presented separately for the Steering Committee (Table 1), Coordination (Table 2) and each Workgroup (Tables 3-6). Table 7 presents in-kind contributions requested by agency. The total PNAMP budget request is presented by workgroup and specific costs for special projects is presented in Table 8. Table 9 explains total PNAMP direct funding requests and anticipated funding contributions as of October 8, 2004.

Additional information on the background and goals of PNAMP may be found in **Appendix A. Recommendations for Coordinating State, Federal, and Tribal Watershed and Salmon Monitoring Programs in the Pacific Northwest (PNAMP January 2004).**

Section 1. Proposed 2005 WorkPlan for PNAMP Steering Committee

TASKS PLANNED FOR 2005:

I. Meetings and Workshops

- Steering Committee meetings will be held monthly, with occasional additional teleconferences as necessary.
- Workshops (one day long) will be held on specific topics as necessary.

Table 1. ESTIMATED STEERING COMMITTEE BUDGET:

Steering Committee FY05 Budget Request				
Participant	**Steering Committee Representative**	**Direct funding request**	**In-kind support request**	**Estimated in-kind cost**
BLM	Al Doelker	$0	26 days (.1 FTE)	$9,500
BPA	Jim Geiselman	$0	26 days (.1 FTE)	$9,500
CBFWA	Rod Sando/Frank Young	$0	26 days (.1 FTE)	$9,500
CDFG CWPAP	Scott Downie	$0	26 days (.1 FTE)	$9,500
CRITFC	Phil Roger/Laura Gephart	$0	26 days (.1 FTE)	$9,500
EPA	Dave Powers/Gretchen Hayslip	$0	26 days (.1 FTE)	$9,500
KWA/CCT	Keith Wolf*	$0	26 days (.1 FTE)	$9,500
NOAA Fisheries	John Stein	$0	26 days (.1 FTE)	$9,500
NOAA Fisheries	Stewart Toshach*	$0	26 days (.1 FTE)	$9,500
NPCC	Steve Waste	$0	26 days (.1 FTE)	$9,500
NWIFC	Bruce Davies	$0	26 days (.1 FTE)	$9,500
OWEB	Becci Anderson	$0	26 days (.1 FTE)	$9,500
PSMFC (StreamNet)	Bruce Schmidt	$0	26 days (.1 FTE)	$9,500
USACE	Paul Ocker	$0	26 days (.1 FTE)	$9,500
USBR	Michael Newsom	$0	26 days (.1 FTE)	$9,500
USFS	Linda Ulmer	$0	26 days (.1 FTE)	$9,500
USFS AREMP	Steve Lanigan*	$0	26 days (.1 FTE)	$9,500
USFWS	Dan Avery	$0	26 days (.1 FTE)	$9,500
USGS	Dave Busch	$0	26 days (.1 FTE)	$9,500
WA GSRO	Steve Leider	$0	26 days (.1 FTE)	$9,500
WA IAC SRFB	Bruce Crawford*	$0	26 days (.1 FTE)	$9,500
WA IAC SWIMTAC	Joy Paulus*	$0	26 days (.1 FTE)	$9,500
WDFW	Jennifer O'Neal*	$0	26 days (.1 FTE)	$9,500
WECY	Steve Butkus	$0	26 days (.1 FTE)	$9,500
	TOTAL	**$0**		$228,000

NOTES:

*** identifies PNAMP technical workgroup leaders**

The PNAMP Steering Committee is comprised of one representative from each entity that is signatory to the PNAMP Charter and the leaders of the technical workgroups (one or two people). Thus, some participating entities have more than one SC representative.
In kind participation valued at $365/day

Section 2. *Proposed Coordination of PNAMP Activities by the US Geological Survey*

Background: Regional goals for monitoring salmon and sustainable fisheries, population recovery, and habitat protection are a high priority in the Pacific Northwest. Recently, members of the Pacific Northwest Aquatic Monitoring Partnership (PNAMP) have agreed upon the need for development and coordination of a state-federal-tribal monitoring partnership in Washington, Oregon, Idaho, and California. Because science and management activities are scattered among agencies whose jurisdictions frequently overlap administratively but often divide along geographic and resource boundaries, the group has explored the requirement for a dedicated PNAMP Coordinator

TASKS PLANNED FOR 2005: Specific tasks to be performed by the Coordinator are presented below. Administrative assistance will be used as necessary to support these tasks. Additional meeting facilitation will be required for some PNAMP activities (large meetings). Estimates of hours required for administrative assistance and facilitation are provided in Attachment 1.

1. Serve as the lead staff, liaison, and point of contact for PNAMP. Support coordination of PNAMP efforts to integrate resource monitoring programs of state, federal, tribal, local, and private organizations in the Pacific Northwest.
2. Ensure completion of administrative requirements of PNAMP activities (e.g. meeting logistical support, record keeping, responsibility for maintenance of membership information), including oversight of clerical assistance as appropriate.
3. Facilitate the transfer of information within PNAMP and across relevant organizations, establish and maintain strong relationships between science and management, and promote and facilitate communication among organizations and disciplines.
4. Facilitate forums among technical experts and between scientists, managers, and liaison groups for the collective evaluation and interpretation of current and new knowledge regarding issues in need of management or research attention. Serve as a clearinghouse for PNAMP activities and products.
5. Provide organizational support to PNAMP by developing, and negotiating fiscal support with government and non-government entities, and managing budgets and associated contracts with government and non-government entities.
6. Ensure completion of progress reporting regarding Coordinator's activities (within PNAMP) and PNAMP activities to interested external parties. Prepare quarterly progress reports for the Steering Committee.
7. Facilitate the development, implementation, and tracking of PNAMP work plans.
8. Initiate and facilitate the development, presentation, and distribution of products aimed as heightening awareness and understanding of PNAMP issues, successes, and problems.

Table 2. ESTIMATED COORDINATION BUDGET:

Coordination Function FY05 Budget Request					
Coordination provided by USGS					**Direct funding request**
Labor		estimated hours	rate/hour	estimated cost	**Total**
	Coordinator (GS 13)	1905	$33.43	$63,684	
	Admin Assistant (GS 6)	1044	$14.26	$14,887	
					$78,572
Benefits	Coordinator (GS 13)			$19,105	
	Admin Assistant (GS 6)			$4,466	
					$23,571
Commmunications					**$1,000**
Travel					**$1,500**
Facilitation					**$2,500**
Total Direct Costs					**$107,143**
Indirect Costs					**$42,964**
Total Direct Funding Request					**$150,107**

NOTE: **This request is lower than previous draft budget, as it reflects funds carried forward from FY04 and USGS cost share.**

Section 3. Proposed 2005 WorkPlans for PNAMP Technical Workgroups

There are currently four technical workgroups within PNAMP: Watershed Monitoring, Project Effectiveness Monitoring, Fish Population Monitoring, and Data Management. Each workgroup is comprised of varying numbers of technical experts from many state, federal, and tribal agencies in the northwest.

Watershed Monitoring Workgroup

Background and Goal: It is expected that each agency may have different monitoring questions. Our goal is to standardize attribute protocols so that each agency can answer their own questions, as well as share data to help other agencies answer their respective questions. The principal goals of the PNAMP watershed aquatic monitoring coordination efforts are to:

- standardize sampling designs,
- standardize sampling protocols, and
- ensure that existing and new data can be shared among all interested parties.

TASKS PLANNED FOR FY2005:

Task 1. Universal Survey Design

Design and implement a common probabilistic survey design. This will facilitate the creation of annual data summaries and annual report cards on the condition (based on key indicators) of riverine/riparian/watershed resources and track changes and trends over time at broad regional scales (e.g., statewide; ecoregion wide; federal lands; Interior Columbia).

Elements of the sample design proposal will include:

- Sample Framework. Establish broad level (e.g., region wide, statewide) sampling of 50 – 100 locations annually over a period of five years, with some locations

monitored annually and others once during the five year period; then repeat the cycle for the next five years, and so on. This would yield data from a total of 250 – 500 locations, which could be used to make "five-year" reports.

- Flexibility. The sampling design can be modified over time as we learn more about important "subpopulations" on which to focus monitoring.
- Scalability. Design framework would be set up to accommodate finer scale monitoring embedded in the broader scale design to promote data sharing (effectively increasing sample sizes and addressing reach-scale effectiveness questions.
- Intend to allow incorporation of existing sample sites from on-going probabilistic sample designs.

Timeline 2005

In coordination with other PNAMP workgroups and others (e.g., CBFWA and CSMEP, bull trout RMEG), convene a workgroup to discuss the general integrated sample design concept developed by Phil Larsen (EPA).

- Nov/Dec 2004- Meet with WDFW to discuss conceptual status and trend design for their proposed status and trend monitoring program. Use this as a "case study" for how to address following questions.
    - What are the specific target sampling populations to be characterized (e.g., all perennial stream networks? All watersheds (e.g., all 6th field watersheds)?
    - Do we want to embed some surveys at the outset?
    - How do we create institutional collaboration (and financial support)?
    - Logistics (who conducts the surveys? Who manages the logistics? Quality control?). Who manages the data?

Task 2. Side-by-side Protocol Test

Compare field attributes and sampling protocols. Use of similar attributes and sampling protocols will allow data to be combined across State, Federal and tribal efforts. This will ultimately allow substantial improvements in efficiency and economy of scale from status and trend monitoring performed by members of the partnership.

Elements of the protocol comparison test will include:

- Identify and recommend a core set of indicators and their associated attributes and protocols that state, federal, and tribal monitoring programs use for assessing status and trends in watershed condition.
- Develop a process for determining what protocols to use (e.g., based on cost, precision and variance, trend detection capability, repeatability, has "statistical blessing")
- In parallel with developing a unified set of protocols, we will also develop calibrations for older protocols (aka a "crosswalk") in order to preserve the value of legacy data where possible.
- Recommend which physical, chemical, and biological in-channel attributes and robust protocols should be used.

Timeline 2005

Planning:

- Fall/Winter 2004

    - December Meeting - Agree to what attributes will be used, what agencies will participate, costs, available funding. Hire coordinator.
    - Agencies (and contact person) that want to participate in comparison test:
        - Aquatic-Riparian Effectiveness Monitoring Program (AREMP) – Steve Lanigan
        - PacFish/Infish Biological Opinion Monitoring Program (PIBO) – Rick Henderson
        - EPA Environmental Monitoring and Assessment Program (EMAP) – Phil Kaufman
        - Oregon Department of Fish and Wildlife - Jim Ruzycki
        - Oregon Department of Environmental Quality – Shannon Hubler
        - Washington Department of Ecology – Steve Butkus
        - US Forest Service Region 6 Stream Survey Program – Deb Konnoff.
        - Upper Columbia Basin Monitoring Group – (need to identify lead)
        - John Buffington – US Rocky Mt Research Station (establish "truth")
- Spring 2005
    - Logistical meeting to finalize 2005 protocol comparison.
    - Contract with contractors to "represent" agencies with insufficient crews.
    - Send to ISRP/ISAB for review.

Field season tests:

- July – August
    - Conduct side-by side protocol comparison in the John Day basin.
    - Survey sample sites to determine "truth"

Analysis and Conclusions:

- Fall/Winter 2006
    - Complete report comparing protocols using agreed upon analyses.
    - Present results to PNAMP membership
    - Develop cross walk tables if protocols are different and it's logistically impossible to change protocols.
- Note: PIBO is conducting a comparison of field data collected by centralized crew versus individual forest crews during FY04. This study addresses quality control issues when using non-centralized field crews.

Table 3. ESTIMATED WATERSHED MONITORING WORKGROUP BUDGET:

Watershed Monitoring Workgroup FY05 Budget Request

Participant	Direct funding request	In-kind support request	Estimated in-kind cost
Workgroup Leadership USFS		30 days (.11 FTE)	$9,000
BLM		20 days (.08 FTE)	$6,000
BPA		15 days (.6 FTE)	$4,500
CDFG		10 days (.04 FTE)	$3,000
EPA		35 days(.13 FTE)	$10,500
NOAA		25 days (.10 FTE)	$7,500
NPCC		5 days (.06 FTE)	$1,500
ODEQ		27 days (.11 FTE)	$8,100
ODFW		28 days (.11 FTE)	$8,400
USFS		110 days (.42 FTE)	$27,000
WA GSRO		5 days (.06 FTE)	$1,500
WA IAC SRFB		5 days (.06 FTE)	$1,500
WDFW		5 days (.06 FTE)	$1,500
WECY		45 days (.17 FTE)	$13,500
			$103,500

NOTES: **In kind participation valued at $300/day**

Watershed Monitoring Workgroup FY05 Budget by TASK

task	# workshops	travel	facilitator	other costs	**Total**
1. Universal sampling design	1	$2,200	$650		$2,850
2. Side-by-side protocol test	2	$4,400	$1,300	$255,000	$260,700
	3	**$6,600**	**$1,950**	**$255,000**	

NOTES: **Assumes each workshop is 1 day long** **$8,550**
Travel assumes cost = $110/day for 20 participants
Facilitation = $650/day

ADDITIONAL COSTS FOR SPECIFIC PROJECTS:

There are specific direct costs associated with Task 2

item	**cost**	
Labor and travel costs to conduct the side by side protocol test	$255,000	see separate budget
TOTAL	**$255,000**	

Effectiveness Monitoring Workgroup

Background and Goal: The Effectiveness Monitoring Workgroup was formed to coordinate initiatives begun by various state, federal, and tribal governments to monitor whether restoration and management actions ongoing in the Pacific Northwest are being effective in restoring salmon and steelhead populations and watershed health. The attention has been focused upon the major expenditures of the NWPCC through the BPA, Oregon watershed Enhancement Board (OWEB), Washington Salmon Recovery Funding Board (SRFB) and the activities of the Bureau of Reclamation and the NOAA Fisheries in regard to implementing pilot watershed monitoring in the Wenatchee and John Day Rivers. An important component has been the initial development of reporting metrics for participating agencies in the Pacific Coastal Salmon Recovery Fund. The focus has been on avoiding duplication of effort among the action agencies, coordinating data collection and disposition in order to facilitate future rollup of information in reporting to the Congress and state Legislatures on progress made. In keeping with higher level reporting of success, the group is also working on agreeing upon a limited number of high level metrics suitable for reporting from all state and federal action agencies.

TASKS PLANNED FOR FY2005:

1. Development of a regional data dictionary for effectiveness monitoring reach scale and watershed scale physical, chemical, and biological attributes.
2. Development of a list of high level indicators for reporting on effectiveness of projects
3. Completion of a regional plan to establish a network of intensively monitored watersheds
4. Development of common sampling protocols for testing effectiveness of projects at both the reach and watershed scale.

Table 4. ESTIMATED EFFECTIVENESS MONITORING WORKGROP BUDGET:

Effectiveness Monitoring Workgroup FY05 Budget Request			
Participant	**Direct funding request**	**In-kind support request**	**Estimated in-kind cost**
Workgroup Leadership			
SRFB	$0	30 days (.11 FTE)	$9,000
Workgroup Leadership			
OWEB	$0	20 days (.08 FTE)	$6,000
BPA	$0	13 days (.05 FTE)	$3,900
CRITFC	$0	13 days (.05 FTE)	$3,900
EPA	$0	13 days (.05 FTE)	$3,900
NOAA	$0	26 days (.1 FTE)	$7,800
PSMFC (StreamNet)	$0	40 days (.15 FTE)	$12,000
USACE	$0	13 days (.05 FTE)	$3,900
USBR	$0	13 days (.05 FTE)	$3,900
USFS	$0	13 days (.05 FTE)	$3,900
WDFW	$0	13 days (.05 FTE)	$3,900
WECY	$0	13 days (.05 FTE)	$3,900
TOTAL	**$0**		**$66,000**

NOTES: **In kind participation valued at $300/day**

Effectiveness Monitoring Workgroup FY05 Budget by TASK				
task	# workshops	travel	facilitator	**Total**
1. EM Data Dictionary	5	-	-	
2. IMW Plan Published	1	-	-	
3. High Level Indicators	2	-	-	
4. EM Protocols	5	-		
	13	**$0**	**$0**	**$0**

NOTES: **Assumes each workshop is 1 day long**
Travel cost is absorbed by participating agencies
Meeting room cost = in kind contribution from WDFW (valued at $200/day)

Fish Population Monitoring Workgroup

Background and Goal: Inventory and monitoring methods, sampling designs, and data management efforts for fish populations are not yet consistent across the Pacific Northwest. Effective monitoring requires a rigorously reviewed, vetted and standardized set of protocols. Flexibility and adaptability must be an inherent part of any set of protocols as environmental conditions will dictate logistics and implementation effectiveness. To facilitate a successful effort at addressing the issues noted above, a close examination of methods and protocols will be conducted by the FPM workgroup. The goal of this effort will be to provide regional consistency such that individual data collection programs can be "rolled up" into larger analytical, management and decision-making levels. Specifically, the FPM group will assist in a pre-publication review of specific protocols of fish collection and counting techniques.

Because of the interconnected nature of monitoring and design development efforts across tribal, state and federal participants, the FPM group will continue to work closely with the Coordinated Systemwide Monitoring and Evaluation Program (CSMEP) which is administered by the Columbia Basin Fish and Wildlife Authority (CBFWA) and funded by the Bonneville Power Administration (BPA). The CSMEP effort this year is focused on assessing strengths and weaknesses of existing datasets in up to 10 pilot subbasins, and developing sampling design templates and with the Upper Columbia, John Day and Salmon basins as coordinated monitoring programs are implemented and

reviewed. The FPM group will work cooperatively with CSMEP to see that this information is disseminated and reviewed.

Additionally, the FPM workgroup will host a set of *Practitioner's Workshops* throughout the region with those entities implementing programs emanating from PNAMP and CSMEP guidance now and in the future. The first of these workshops would bring staff together from the Okanogan, Wenatchee, the IMW's, John Day and the SRFB (IAC) to hold a one-day "what worked, what didn't" meeting between those developing protocols and processes and those attempting to implement M&E projects/protocols. The goal of the meeting would be to share retrospective information from the 2004 field season with an eye towards increased standardization of efforts and approaches.

TASKS PLANNED FOR FY2005

1. Host a workshop with a group of scientists and fish managers to identify overall fish population RME needs in the Pacific Northwest. The FPM will solicit proposals for future PNAMP/FPM projects and/or initiatives on topics that emerge from this meeting. (Winter 2005).
2. Organize and plan targeted field monitoring tests in the Upper Columbia pilot studies like those conducted in the Oregon Plan for coastal streams to recommend consistent field methods for this region (Winter 2005)
3. Host "Practitioner's Workshop".The FPM will bring M&E field practitioners together from the Okanogan, Wenatchee, the IMW's, John Day and the SRFB (IAC) to hold a one-day (January 12, 2005) "what worked, what didn't" meeting between those developing protocols and processes and those attempting to implement M&E projects/protocols. The goal of the meeting would be to share retrospective information from the 2004 field season with an eye towards increased standardization of efforts and approaches.
4. Support presentations at the Large-Scale Monitoring Symposium—American Fisheries Society November 1-3, 2004. The FPM workgroup will then facilitate a project proposal to PNAMP for publication of the proceedings from the entire AFS conference that includes symposia presentations on stream restoration principles, program design approaches, large-scale monitoring, and habitat diagnostic tools.
5. Catalogue Existing Fish Population Monitoring Efforts in each of the pilot subbasins and consider a larger list of additional pilot subbasins for future cataloging. The goal is to document the breadth and scope of monitoring efforts across the Pacific Northwest (December 2004-FY06)
6. Review Fish Monitoring Protocols from the draft paper of: David H. Johnson, Brianna M. Shrier, Jennifer O'Neal, John Knutzen, Todd N. Pearsons, Thomas A. O'Neil, Brett Roper, Xan Augerot. This review will occur October 2004-May 2005. The review group will assist the authors with a protocol publications plan and facilitate implementation of protocols by and through PNAMP partners. Other possible products may include production of a protocol(s) training video(s), and the publication of a protocol field manual. Logically, this effort must also include other protocols under development in California, Oregon, and

Washington and beyond, as those protocols are proposed in the future. A permanent protocol review subcommittee may need to be formed.

Table 5. ESTIMATED FISH POPULATION MONITORING BUDGET:

Fish Population Monitoring Workgroup FY05 Budget Request

Participant	Direct funding request	In-kind support request	Estimated in-kind cost
Workgroup Leadership KWA (for Colville Tribes) (2 people)	$0	16 days (.06 FTE)	$4,800
Workgroup Leadership WDFW	$0	16 days (.06 FTE)	$4,800
BPA	$0	13 days (.05 FTE)	$3,900
CBFWA	$0	13 days (.05 FTE)	$3,900
CCT	$0	13 days (.05 FTE)	$3,900
CDFG	$0	13 days (.05 FTE)	$3,900
CTUIR	$0	13 days (.05 FTE)	$3,900
EPA	$0	13 days (.05 FTE)	$3,900
MDFWP	$0	13 days (.05 FTE)	$3,900
NOAA	$0	13 days (.05 FTE)	$3,900
ODFW	$0	13 days (.05 FTE)	$3,900
OWEB	$0	13 days (.05 FTE)	$3,900
PSMFC (StreamNet)	$0	5 days (.02 FTE)	$1,500
Tetra Tech	$0	13 days (.05 FTE)	$3,900
USBR	$0	13 days (.05 FTE)	$3,900
USFS	$0	13 days (.05 FTE)	$3,900
USFWS	$0	13 days (.05 FTE)	$3,900
USGS	$0	13 days (.05 FTE)	$3,900
WA GSRO	$0	13 days (.05 FTE)	$3,900
WDFW	$0	13 days (.05 FTE)	$3,900
TOTAL	**$0**		**$77,400**

NOTES: **In kind participation valued at $300/day**
Direct funding request is for travel only

Fish Population Monitoring Workgroup FY05 Budget by TASK

task	# workshops	travel	facilitator	**Total**
1. Science/Manager workshop	2	$2,200	$0	$0
2. Organize & plan field protocol comparison tests	4	$8,800	$0	
3. Practitioners Workshop	1	$2,200	$0	$2,200
4. Support presentations at AFS meeting	0		$0	
5. Catalogue exisitng FPM efforts	1	$2,200	$0	$2,200
6. Protocol review	5	$4,300	$3,250	$7,550
	13	**$17,500**	**$3,250**	**$20,750**

NOTES: **Assumes each workshop is 1 day long**
Travel assumes cost = $110/day for 20 participants
Facilitation = $650/day

ADDITIONAL COSTS FOR SPECIFIC PROJECTS:

There are specific direct costs associated with Task 4. (publication of the *Fish Protocols):*

item	**cost**
Publication fees	$0
*Training Video	$1,200
Protocol Manual	$9,250
AFS LSM Proceeding Support	$5,000
Contractor for Task 5 M&E activities catalogue	$25,000
TOTAL	**$40,450**

*training video demonstration is for one set of protocols

Data Management Workgroup

Background and Goal. There is a critical need for improvements to Northwest regional aquatic monitoring information systems in order to provide adequate access to information related to salmon recovery and watershed health. The PNAMP data management goal is to assist scientists on the identification and development of data standards as related to fish and aquatic habitat data. This includes identifying the subject area data needs and assessing a uniform approach to representing that information so that the data can be shared across organizations. The merger of subject matter experts and information technology management is the first step toward representing project study information in a commonly agreed upon format for implementation across the region.

The PNAMP data management coordination effort is currently at the first step of its overall methodology, involving the definition of its data management needs and requirements. The 'clients' for the effort are the three PNAMP workgroups: Watershed Condition Monitoring, Fish Population Monitoring, and Effectiveness Monitoring. With support from this Statement of Work (SOW) the workgroups are expected to identify their specific data management needs.

In addition, the PNAMP group as a whole is expected to have data coordination needs that go beyond individual work group needs or cut across work group boundaries. Overall PNAMP needs will be coordinated by the PNAMP Information Management Coordinator (synonymous with the Workgroup Leader) who will serve to ensure that PNAMP adopts and uses consistent data management approaches across the work groups. The PNAMP information management coordinator will attend SC meetings, work with other Data Workgroup members, and work with the individual work group's data support persons to understand and document overall PNAMP data needs.

The role of the overall PNAMP Information Management Coordinator is to facilitate discussion amongst the subject area experts regarding:

- coordination of consistent data reporting and definition, data integration and data reporting standards within each of the monitoring groups,
- communication and sharing of data related expertise
- maintenance of a common information management approach for PNAMP
- collaborative activities with other data management efforts, for example, existing data management entities, the State Federal Framework effort, the national regional framework, the OR/WA Hydrology clearinghouse, IRRIC, NED and others
- direction of the activities of a dedicated PNAMP Data Analyst, if the position is approved.

TASKS PLANNED FOR 2005:

1. Participate in NED workshops
    a. PNAMP participants in NED Regional QA/QC workshop
    b. PNAMP participants in NED Regional Spatial definitions
    c. PNAMP participants in NED Data networking workshop
    d. PNAMP participants in NED project management data workshop

ADDITIONAL SPECIFIC PROJECT: A full time data analyst dedicated to PNAMP is needed to support the definition and documentation of the identified information needs and requirements for the PNAMP workgroups ("clients"). The data analyst will coordinate development of the client workgroup's needs. This would involve understanding, translating and documenting the client workgroup's needs, identifying potential regional data management resources, and coordinating meetings to bring data management and client workgroup members together. The data analyst is not expected to provide hands-on day-to-day technical data management such as obtaining data, reporting and consolidation, or developing data management infrastructure, but rather coordinating and documenting the development of the PNAMP data dictionary and business rules for data sharing.

The data analyst will work with each PNAMP workgroup to assist on tasks relating to: the assessment of data needs; identification of data gaps, estimate of costs; best practices on the measurement, collection and tracking of data; establishment of standards (metadata, naming conventions, etc.); and, (at the discretion of the point of contact) exploration of information technology advancements in the integration and sharing of data.

Specific Tasks. Within each PNAMP workgroup the task is to:

- Establish close working relationship with the workgroup leads
- Assess the business information needed to support each workgroup
- Review the data management gaps that exist and identify solutions for filling those gaps including needed data, process and organizational standards
- Leverage existing data collection/reporting standards as tools to achieve sharing
- Establish close coordination to the PNAMP Data Mgt Coordinator back to main PNAMP Coordinating Structure
- Develop and document dictionaries for all the data attributes as needed for each of the workgroups.
- Develop and document all business rules for collecting, managing and sharing needed data including clear identification of exactly what data and data sets, including legacy data should be shared, the location (or source) of the data, the current data steward, the amount of data available and the format in which the data are currently held.

It is essential to document a detailed needs assessment, define the sources and contact information, confirm details of needed data and needed data outputs. The need for data quality assurance and quality control for managing data must be identified as a part of this effort as well**.** For a detailed Statement of Work for the completion of the PNAMP Data Needs Assessment task, see **Appendix B. PNAMP Statement of Work to complete a detailed data management needs assessments for the Watershed Condition Monitoring, Fish Population Monitoring and Effectiveness Monitoring workgroups.**

Table 6. ESTIMATED DATA MANAGEMENT WORKGROUP BUDGET:

Data Management Workgroup FY05 Budget Request			
Participant	**Direct funding rec**	**In-kind support request**	**Estimated in-kind cost**
Workgroup Leadership NOAA Fisheries (Data Meetings)	$0	26 days (.1 FTE)	$11,700
Workgroup leadership (Steering Cttee meetings) (Funding from NED)	$0	26 days (.1 FTE)	$11,700
Workgroup Leadership WA-IAC/ SWIMTAC (Data Meetings and SC meetings)	$0	26 days (.1 FTE)	$11,700
OWEB	$0	26 days (.1 FTE)	$11,700
PSMFC (StreamNet)	$0	26 days (.1 FTE)	$11,700
USFS (Linda Ulmer to nominate)	$0	26 days (.1 FTE)	$11,700
USACE	$0	26 days (.1 FTE)	$11,700
TOTAL	**$0**	**$0**	**$81,900**

NOTES: **In kind**

Data Management Workgroup FY05 Budget by TASK

Task	# workshops	travel	facilitator	other costs
1.a PNAMP participants in NED Regional QA/QC workshop1x 5 days (1 prep, 3@wshp, 1 follow up)	1	covered by NED	covered by NED	
1. b PNAMP participants in NED Regional Spatial definitions workshop1x 5 days (1 prep, 3@wshp, 1 follow up)	1	covered by NED	covered by NED	
1. c PNAMP participants in NED Data networking workshop 1x 5 days (1 prep, 3@wshp, 1 follow up)	1	covered by NED	covered by NED	
1.d PNAMP participants in NED project management data workshop 1x 5 days (1 prep, 3@wshp, 1 follow up)	1	covered by NED	covered by NED	
TOTAL				

NOTES:
Until needs have been assessed PNAMP data workshops are unknown
Assumes each workshop is 1 day long
Travel assumes cost = $110/day per participant
Facilitation = $650/day

ADDITIONAL COSTS FOR SPECIFIC PROJECTS:

There are specific direct costs associated with this Workgroup:

item	**cost**
Data Analyst (1.0 FTE; to determine detailed needs assessments for 3 content groups)	$131,000
TOTAL	**$131,000**

Table 7. Total PNAMP in-kind participation request by participating agency for FY05.

PNAMP FY05 In Kind Request by Participant	
Participant	**Estimated in-kind cost**
BLM	$15,500
BPA	$21,800
CBFWA	$17,300
CDFG	$16,400
CRITFC	$13,400
EPA	$27,800
KWA/CCT	$18,200
NOAA Fisheries	$61,600
NPCC	$11,000
ODEQ	$8,100
ODFW	$12,300
OWEB	$31,100
PSMFC	$34,700
WA IAC SWIMTAC	$21,200
USACE	$25,100
USBR	$17,300
USFS	$74,500
USFWS	$13,400
USGS	$9,500
WA IAC SRFB	$20,000
WA GSRO	$14,900
WECY	$26,900
WDFW	$14,100

Notes: Includes estimates of in-kind participation for Steering Committee and all workgroups combined.

Table 8. Total PNAMP Budget Request by Workgroup and Special Projects for FY05.

TOTAL PNAMP FY05 Budget Request

See Table "Anticipated FY05 Funding Scenario" for explanation of funds expected and funding needed as of October 8, 2004

Element	Direct funding request	In-kind support request	Estimated in-kind cost per participant	Estimated total in-kind cost
Coordination	$150,000			
WORKGROUP PARTICIPATION				
Steering Committee	$0	26 days per participant	$9,500	$228,000
Watershed Monitoring Workgroup	$8,550	5 days per participant	$1,500	$103,500
Effectiveness Monitoring Workgroup	$0	13 days per participant	$3,900	$66,000
Fish Population Workgroup	$20,750	13 days per participant	$3,900	$77,400
Data Management Workgroup	$0	26 days per participant	$11,700	$81,900
SUB-TOTAL	**$179,300**			$556,800

ADDITIONAL COSTS FOR SPECIFIC PROJECTS: There are specific direct costs associated with certain planned activities and tasks.

item	cost
Tribal participation	?
Watershed Monitoring Workgroup's Protocol Comparsion Test	$255,000
Fish Population Monitoring Workgroup's Protocol Publication	$10,450
Fish Population Monitoring Workgroup's LSM Proceeding Support	$5,000
Fish Population Monitoring Workgroup's contractor for Task 5 (catalogue M&E activities)	$25,000
Data Management Workgroup's Data Analyst	$131,000
SUB-TOTAL	**$426,450**
TOTAL	**$605,750**

NOTES:

In kind participation valued at $300/day
Direct funding requst is for travel and facilitation for Workgroup Participation

Table 9. Total PNAMP direct funding requests and anticipated funding contributions for FY05.

ANTICIPATED PNAMP FY05 FUNDING CONTRIBUTIONS				
Activity/Task	**Direct funding request**	**Funds offered by**	**Amount offered**	**Comments**
Coordination	$150,000	USBR	$25,000	
		WA SRFB	$20,000	
		BLM	$15,000	
		USFS	$15,000	
		BPA	$20,000	
		NOAA	$25,000	
		"running total" Oct 8	**$120,000**	
Watershed Monitoring Workgroup's Workshop Participation (travel & facilitation)	$8,550			
Watershed Monitoring Workgroup's Protocol Comparsion Test	$255,000	USBR	$25,000	estimate
		BLM (thru request for proposals)	$50,000	tentative; awaits decision on selection process
		NOAA	$90,000	
		OWEB	$20,000	
		"running total" Oct 8	**$185,000**	
Fish Population Monitoring Workgroup Workshop Participation (travel & facilitation)	$20,750			
Fish Population Monitoring Workgroup's Protocol Publication	$10,450			
Fish Population Monitoring Workgroup's LSM Proceeding Support	$5,000			
Fish Population Monitoring Workgroup's contractor for Task 5 (catalogue M&E activities)	$25,000			
Data Management Workgroup's Data Analyst	$131,000			
Tribal participation	$33,000	EPA	$23,000	
		BPA	$10,000	
	REQUESTED		**ANTICIPATED**	
	$605,750		**$338,000**	$267,750

APPENDIX A. RECOMMENDATIONS FOR COORDINATING STATE, FEDERAL, AND TRIBAL WATERSHED AND SALMON MONITORING PROGRAMS IN THE PACIFIC NORTHWEST

APPENDIX B. PNAMP STATEMENT OF WORK: TO COMPLETE DETAILED DATA MANAGEMENT NEEDS ASSESSMENTS FOR THE WATERSHED CONDITION MONITORING, FISH POPULATION MONITORING, AND EFFECTIVENESS MONITORING WORK GROUPS.

1.0 Background and Goal.

There is a critical need for improvements to northwest regional aquatic monitoring information systems to provide adequate access to information related to salmon recovery and watershed health.

The PNAMP data management goal is to assist scientists on the identification and development of data standards as it relates to fish and aquatic habitat data. This includes identifying the subject area data needs and assessing a uniform approach to representing that information so that the data can be shared. The merger of subject matter experts and information technology management is the first step toward representing project study information in a common agreed upon format for implementation across organizations.

The PNAMP data management coordination effort is currently at the first step of its overall methodology, involving the definition of data management needs and requirements. The 'clients' for the effort are the three PNAMP work groups: Watershed Condition Monitoring, Fish Population Monitoring, and Effectiveness Monitoring. With support from this SOW the workgroups are expected to identify their specific data management needs.

2.0 Data Analyst Tasks

2.1 Overall Tasks. A data analyst is needed to support the definition and documentation of needs and requirements for the PNAMP "clients". The data analyst will coordinate development of the client work group's needs. This would involve understanding, translating and documenting the client work group's needs, identifying potential regional sources of data management resources, and coordinating meetings to bring data management and client work group members together. The data analyst is not expected to provide hands-on day-to-day data management: involving tasks such as obtaining data, reporting and consolidation, or developing data management infrastructure.

The data analyst will work with each PNAMP work group to assist on tasks relating to: the assessment of data needs; identification of data gaps, estimate of costs; best practices on the measurement, collection and tracking of data; establishment of standards (metadata, naming conventions, etc.); and, (at the discretion of the point of contact) exploration of information technology advancements in the integration and sharing of data.

2.2 Specific Tasks. Within each PNAMP work group the task is to:

- Establish close working relationship with the work groups
- Assess the business information needed to support each work group
- Identify and detail data management needs and gaps and identify solutions for filling those gaps including details about needed: data, process and organizational standards. Data needs and gaps must be identified and specified in detail by name of data, definition of data, unit of measure of data, location/source/contact fro data and any other information necessary to clearly define data management needs.
- Liaise with regional data standard development efforts to assess the usability of existing data collection/reporting standards to meet the work group needs
- Leverage existing data collection/reporting standards as tools to achieve sharing
- Provide coordination of standards and guidelines that have a common look and feel
- Establish close coordination to the PNAMP Information Management Coordinator for reporting to the PNAMP Steering Committee.

It is essential to document a detailed needs assessment, define the sources of needed data and contact information, confirm all details of needed data and needed data outputs. Needs for data quality assurance and quality control for managing data must be identified as a part of this effort.

3.0 Skills, Services, Documentation and Point of Contact.

3.1 Needed skills. It is essential that the data analyst to have at least 5 years in planning for, developing, facilitating and documenting consensus-based information needs assessments. For this task it is not sufficient to have experience in completing needs assessments – experience in facilitating consensus based solutions is essential given that the membership of the PNAMP crosses agency and programmatic lines. Related information system skills and experience is desirable, for example understanding of regional information systems, quality assurance control systems and biological and other monitoring data management.

3.2 Services Required (See sections 2.1 and 2.2 above).

3.3 Documentation Required. The data analyst will provide the following: A detailed project plan, bi-weekly status reports, draft and final information system products, system documentation and accounting for any expenditure.

3.4 Point of Contact. The PNAMP Information Management Coordinator is the point of contact for all content related issues. For all contract issues _____is the point of contact.

4.0 Deliverables.

4.1 Brief progress reports every two weeks on tasks undertaken, percentage of tasks completed, and any issues affecting completion, priorities or progress in achieving

project milestones. The reports will be provided to both the contract and contact points of contact.

4.2 Final products include: a written product provided in both paper and an electronic version in the format/s required by the PNAMP Information Management Coordinator.

5.0 Performance.

5.1 Place of Performance. Services are to be onsite at the _____location. Any adjustments to the location or schedule of performance are at the discretion of the _____ project point of contact.

5.2 Period of Performance. Product deliverables are defined above.

5.3 Schedule of Performance. Services are to be provided during the normal business between 7:00 AM and 4:00 PM Monday thru Friday excluding agreed legal federal holidays.

5.4 Materials and Equipment. The _____(insert agency) will provide the services, equipment, materials and travel to complete this work.

6.0 Privacy.

6.1 Privacy, Security & Confidentiality of subjects and materials: Privacy Act Work on this contact may require personnel to have access to Privacy information. Personnel shall adhere to the Privacy Act, Title 5 of the U.S. Code, Section 552a and applicable agency rules and regulations.

7.0 Cost.

It is estimated that this effort can be completed over a one-year period at a cost of:
Performance Period: October 1, 2004 – September 30, 2005:

- Data Analyst (salary & benefits) $ 90,742
- Travel $ 3,000
- Indirect Costs $ 37,591
- **Total** **$131,333**